

REMARKS

Claims 1-27 were previously pending in the above-referenced patent application, and subject to rejection. Claims 28-31 have been added by this amendment. No new matter has been added. A check is enclosed to cover the fee for additional fee for three (3) additional claims and two (2) additional independent claims.

This Amendment is being filed within the three month shortened statutory period for response. An Extension of Time is therefore unnecessary.

Please charge any additional fees or credit any overpayment in connection with this response to our Deposit Account No. 19-1995. A duplicate copy of this letter is enclosed for that purpose.

Claims 1-27 were rejected under 35 USC 103(a) as being unpatentable over Lea, USPN 6,052,750 in view of Day et al. USPN 5,953,526 ("Day"). Claims 1-2, 4-16 and 19-21, have been amended. A marked-up version of the claims, showing the amendments, is enclosed.

In regards to the co-pending applications referenced in the Specification, the following is an updated status:

- (1) App. Ser. No. 09/104,229, has issued as Patent No. 6,288,716 B1;
- (2) App. Ser. No. 09/104,298, has issued as Patent No. 6,198,479 B1;
- (3) App. Ser. No. 09/104,469, has issued as Patent No. 6,243,707 B1;
- (4) App. Ser. No. 09/104,606, has issued as Patent No. 6,182,091 B1; and
- (5) In App. Ser. No. 09/104,297, an RCE was filed on 12/24/02, pending.

Applicant has carefully reviewed the Patent Office's reasons for rejection of the claims. The rejection of the claims is respectfully traversed because the claims include limitations not taught or suggested by the references alone, or in combination.

Brief Description of the Present Invention

The present invention provides a method for performing a service on a home network, by connecting home devices to the home network, wherein each device has an interface description. The interface description of each device is placed in a database by an agent in the home network. To command and control a first device, a second device accesses that database that is universally accessible, to obtain the interface description of the first device, to send command and control data to the first device. In this manner the first and second devices autonomously provide a service for the user (Claims 1, 9, 23).

Further, independent Claims 1 and 9 have been amended to further clarify that devices connected to the network are queried to obtain their application interface description data, wherein the obtained application interface description data is stored in a data base. A first network device then communicates with a second network device using the application interface description data of the first device in the database.

Brief Description of Lea and Day

Lea specifically specifies that its goal it to provide a system for ensuring future upgradability and expandabiliy of devices in a home audio video network. The system generates a default control module (DCM) for a first device coupled to the network by using a second device coupled to the network. The DCM is configured to ensure at least a minimum degree of interoperability between the first device and the second device. The second device accesses the first device via the DCM which enables the first device to respond to a default set of commands from the second device. When an updated control module for the first device is received, the

DCM is replaced with the updated control module by unlinking the DCM and linking the updated control module. The second device subsequently accesses the first device via the updated control module, wherein the updated control module enables the first device to respond to an updated set of commands from the second device (Lea, Abstract).

Day is directed to a computer controlled object oriented programming system for interfacing a plurality of programming objects with each other to provide combination objects combining programming functions of the objects. As such, clearly, Day is non-analogous art in relation to the claimed invention, which involves a method for performing a service on a home network.

Indeed, as Day states, each object including predetermined interface data defining a required common interface with the other programming objects in a framework of events, attributes and methods for manipulating the attributes. These objects may be combined with each other via their common interfaces to form combination objects and such combination objects may in turn be further combined with other objects and combination objects to form objects of increasing complexity which function as complete programs. There is provided a displayable output of documentation for the programming objects in which the basic documentation provided for an object oriented program by its developers may be added to or modified without the need to change the framework of the objects in the program. To accomplish this, Day involves the combination of two documentation functions: (1) the basic documentation program which translates source code data within the object framework, and (2) an implementation translating a portion of the object source code data which is outside of the object framework (Day, Abstract). This has nothing to do with the Claimed invention herein.

Argument

As per Claim 1, Neither Lea, nor Day, discloses “querying the first home device to obtain first application interface description data” (Claim 1). Neither Lea, nor Day, discloses “querying the second home device to obtain second application interface description data” (Claim 1). Neither Lea, nor Day, discloses that “each application interface description data includes information for commanding and controlling of the corresponding home device by another device connected to the network” (Claim 1). Neither Lea, nor Day, discloses “storing the obtained first and second application interface description data in a data base” (Claim 1). If the Patent Office disagrees, Applicants respectfully request that the Patent Office specifically quote language from either reference that discloses such limitations. Otherwise, Claim 1 should be allowed.

The Patent Office refers to long passages in Lea and Day, without specificity, in rejecting the claims. The Patent Office has failed to show that Lea and/or Day disclose the above limitations. For example, in paragraph 7 on page 4 of the Office Action, the Patent Office refers to Lea, col. 12, lines 1 - col. 13, line 31 and col. 16, lines 36-37; and Day, col. 1, line 17 - col. 2, line 36 and col. 6, lines 9-67. The Patent Office relies on these long passages, without specificity, for the proposition that Lea as modified by Day teaches the claimed limitations of querying the network devices to obtain their application interface description data and then storing the obtained application interface description data in a database for access by the network devices. Applicants have carefully read these long passage in Lea and Day, and it is respectfully submitted that the passages do not disclose such limitations. If the Patent Office disagrees, Applicants respectfully request that the Patent Office specifically quote language from either reference that discloses such limitations. Wholesale references to Lea and Day, without specificity, make it very difficult for the Applicants to from a lucid response.

Further, Lea, in Col. 8, lines 18-28; Col. 9, lines 36-48, specifies that a DCM is used in each full node (FAV) for each device (IAV) in the network, wherein the DCM provides an API used to send control commands to that device. The FAV nodes act as control nodes and create a local representation of the IAV. As such, the FAV builds a DCM for another device and the DCM exposes an interface that allows controlling that device. Therefore, Lea has nothing to do with the claimed limitations herein, wherein a network device has an application interface description data that other devices obtain from a data base, and use for communication with that network device. The Patent Office has not indicated where in the references this limitation of Claim 1 is disclosed.

As the Office Action also states, Lea does not disclose a database of device interface descriptions according to the present invention. Further, Lea does not disclose querying the network devices to obtain their application interface description data, for access by the home network devices to perform command and control therebetween. Nor does Lea disclose a process wherein to command and control a first device, a second device obtains the interface description of the first device, to send command and control data to the first device, whereby the first and second devices autonomously provide a service for the user (Claim 1). The Patent Office has not indicated where in the references these limitations of Claim 1 are disclosed. As before, the Patent Office summarily, and without specificity, refers to the long passage in Lea, col. 12, line 1 - col. 13, line 31, for the proposition that Lea discloses the above limitations. Applicants respectfully submit that Lea does not teach such limitations. If the Patent Office disagrees, Applicants respectfully request that the Patent Office specifically quote language from either reference that discloses such limitations.

The Office Action states that Day discloses a library that serves as the device interface description database of the present invention. It is respectfully submitted that Day does not mention a library or database including the device interface descriptions according to the present

invention. Day relates to a computer controlled object oriented programming system having means for interfacing a plurality of programming objects with each other to provide combination objects combining programming functions of said objects in which each object includes predetermined interface data defining a required common interface with the other programming objects (a plurality of these objects, each having a framework comprising a plurality of data attributes and a method of manipulating said data attributes). These objects may be combined with each other via their common interfaces to form combination objects and such combination objects may in turn be further combined with other objects and combination objects to form objects of increasing complexity which function as object oriented programs. This is directed to Java applications. (Day, Abstract).

As detailed in Col. 2, line 39 - Col. 3, line 36, Day involves a documentation system for providing a displayable output of documentation for said programming objects in which the basic documentation provided for an object oriented program by its developers may be added to or modified without the need to change the framework of the objects in the program. To accomplish this, Day involves the combination of two documentation means: 1) the basic documentation program object provided by the program developers which has the basic interface data defining said required common interface with means for storing said source code and means for translating a first portion of said source code (i.e., the portion selected by the developers for documentation) into an output in a language readable by a computer controlled display system to display said first portion of said source code in natural language documentation; and 2) means without said interface data defining said required common interface for translating a selected second portion of said source code (i.e., a portion not chosen for documentation by the original program developers) into an output in the same language as said language readable by said computer controlled display to display said second portion of said source code in the same natural language documentation complementing the documentation of said first portion. Day further provides means for obtaining from said source code identifiers for selecting said second

portion of said source code. These identifiers are used to select this second portion from the machine code, which the source code is compiled into.

There is no mention of a database or library in Day, and no suggestion of using a database maintain device interface descriptions according to the present invention. Further, Day does not disclose placing device interface descriptions of the home network devices in the data base for access by the home network devices to perform command and control therebetween.

Further, one of ordinary skill in the art would not look to combine Lea and Day, nor is there a motivation or suggestion in either reference to do so, to solve device command and control issues in a home network according to the present invention. Day's field of invention is directed to providing tools for an object oriented programming system with displayable natural language documentation through dual translation of program source code. Day provides software developers with a system for interfacing a plurality of programming objects wherein said programming objects may be initial programming objects and combinations of such initial programming objects combining functions of said initial objects. Each programming object respectively having a framework including data attributes, methods of manipulating such attributes and predetermined interface data defining a required common interface with the other programming objects. The system provides a displayable output of documentation for the programming objects (Day, Col. 8, lines 52-62).

Day provides a system for an object oriented environment that can be used for a Java environment in relation to the Internet, and has nothing to do with device command and control in a home network according to the present invention. Day addresses the need for programmers and users readily being able to display program documentation in a clear and comprehensive manner in natural language (i.e., JavaDoc which generates its documentation with an API). Day provides an addition for JavaDoc, addressing a limitation with the use of the JavaDoc document

generator in that what will be included in the documentation is usually predetermined since all data to be used to provide documentation must be structured in the previously described API format. Thus, if others down the line from the prior developers believe that it would be advantageous to include additional comments, annotations or even active messages, the prior Java programming objects would have to be modified to include doc comments within the API framework. Day characterizes this as awkward and inefficient, and provides an alternative approach to enhancing the documentation without modifying existing Java objects (Day, Col. 1, line 64 - Col. 2, line 36). As such, Day is not related to the field of this invention, does not provide a database of library, and cannot be combined with Lea.

Lea cannot be modified by Day as suggested by the Patent Office. Simply dropping a database into Lea without more does not result in the present invention. As detailed above, the network devices in Lea do not have application description interface data that can be obtained and placed in a data base (i.e. the FAV device builds a DCM for other devices because these other devices do not have a DCM of their own to be used for communication/control; Lea, Col. 8, lines 18-28; Col. 9, lines 36-48). And, there is no concept in Day of a querying devices for their interface data, building a data base of the interface data, and a first network device accessing the data base for interface data of a second device to perform a service in conjunction with the second device. Day is showing programmers how to build a collective object oriented class. Therefore, there is no motivation or need for a data base of any sort in Lea.

Therefore, for at least the above reasons, Claim 1, and all claims dependent therefrom, should be allowed.

As per Claim 3, the Patent Office refers to Lea, Col. 15, line 61 - Col. 16 line 35, for the proposition that Lea discloses connecting a database device to the network. The only mention of a word "data base" in that passage is in Col. 15, lines 61-65, where Lea states: "Registry 706:

This is a service database. All DCMs for physical devices and software services will register themselves in the registry 706 and all modules (e.g., device modules 720) can query the registry to get a handle for another device or module “ (Col. 16, lines 61-65). However, Lea’s reference is to a data base service 706, not a data base or database according to the present invention. This is clear, because Lea does not show or describe a database device or database at all. As such, Claim 3 should be allowed.

As per Claim 4, the Patent Office’s reasoning for the rejection is traversed because for at least the above reasons limitations of Claim 4 are not disclosed by Lea or Day, alone or in combination. As such, Claim 4 should be allowed.

As per Claims 5-6, the Patent Office’s reasoning for the rejections is traversed for at least the above reasons, limitations of Claims 5-6 are not disclosed by Lea or Day, alone or in combination. As such, Claims 5-6 should be allowed.

As per Claim 7, the Patent Office’s reasoning for the rejection is traversed because for at least the above reasons, limitations of Claim 7 are not disclosed by Lea or Day, alone or in combination. As such, Claim 7 should be allowed.

As per Claim 8, the Patent Office’s reasoning for the rejection is traversed because for at least the above reasons, limitations of Claim 8 are not disclosed by Lea or Day, alone or in combination. As such, Claim 8 should be allowed.

As per Claim 9, the Patent Office’s reasoning for the rejection is traversed because for at least the above reasons for Claim 1, limitations of Claim 9 are not disclosed by Lea or Day, alone or in combination. For example, neither reference, alone or in combination, discloses: “a controller that queries the first home device to obtain first application interface description data,

and queries the second home device to obtain second application interface description data” (Claim 9). Neither do the references disclose that “the controller stores the obtained first and second application interface description data in a data base” (Claim 9). As such, Claim 9 and all claims dependent therefrom, should be allowed.

As per Claims 10-17, the Patent Office’s reasoning for the rejections are traversed because for at least the above reasons given for Claims 2-8, limitations of Claims 10-17 are not disclosed by Lea or Day, alone or in combination. As such, Claims 17-19 should be allowed.

As per Claims 18-19, the Patent Office’s reasoning for the rejections is traversed. Lea, col. 3, lines 2-10, referenced in the Office Action, does not disclose “an agent that creates the data base” as required by Claim 18, wherein that database includes the application interface description data of the network devices. The agent queries each network device to obtain its application interface description data, to include in the data base, as required by Claim 19. By contrast, the system of Lea, generates a default control module (DCM) for a first device coupled to the network by using a second device coupled to the network (Lea, Abstract). This has nothing to do with the claimed invention. Further, Day, Col. 6, lines 39-67, referenced in the Office Action, is simply reviewing how Java works. It is unclear how such teachings are in any way related to the claimed invention, and the Office Action has not provided such reasoning. As such, Claims 18-19 should be allowed.

As per Claims 20-21, the Patent Office’s reasoning for the rejections are traversed because for at least the above reasons given for Claims 18-19, limitations of Claims 20-21 are not disclosed by Lea or Day, alone or in combination. As such, Claims 20-21 should be allowed.

As per Claim 22, the Patent Office's reasoning for the rejections are traversed because for at least the above reasons given for Claims 1, 3, 4 and 9, limitations of Claim 22 are not disclosed by Lea or Day, alone or in combination. As such, Claim 20 should be allowed.

As per Claims 23-24, the Patent Office's reasoning for the rejections are traversed because for at least the above reasons limitations of the claims are not disclosed by the references alone or in combination, and as such the claims should be allowed.

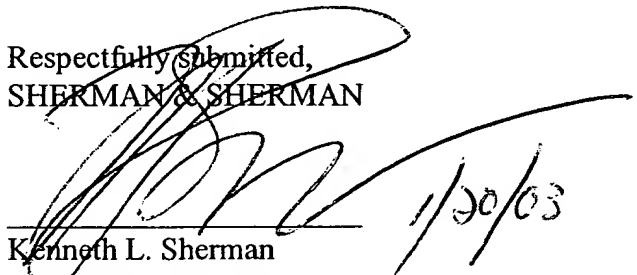
Applicant would like to point out, that in rejecting the claims: (1) the Office Action lacks specificity as to the language in each reference which the Patent Office contends discloses limitations of the claimed invention, (2) when the references are combined, except in case of Claim 1, the Patent Office has not provided sufficient information as to how and why a reference is modified by another to achieve the limitations of the claimed invention, and (3) the Patent Office repeatedly contends that Applicant has broadly claimed the invention and yet the Patent Office does not provide sufficient information as to which limitations of the claims the Patent Office is referring to. If the claims are once again rejected, Applicant respectfully requests the Patent Office provide specific and clear reasoning so that Applicant and better respond.

Further, for the above reasons, new Claims 28-31 should also be allowed.

Conclusion

For these, and other, reasons, Applicants believe that the claims are in condition for allowance. Reconsideration, re-examination, and allowance of all claims are respectfully requested.

Respectfully Submitted,
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By 

February 21, 2003
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Marked-up version of the amended claims

1. (Twice Amended) A method for performing a service on a home network, the method comprising the steps of:
 - (a) connecting a first home device to the home network;
 - (b) connecting a second home device to the home network;
 - (c) (1) querying the first home device to obtain first application interface description data, and querying the second home device to obtain second application interface description data, wherein [a database including a plurality of application interface description data objects,] each application interface description data [object including] includes information for commanding and controlling of [a] the corresponding home device by [one or more other home devices] another device connected to the network, and (2) storing the obtained first and second application interface description data in a data base;
 - (d) the second home device accessing [a] the first application interface description data [object] for the first home device in the database;
 - (e) the first home device accessing [a] the second application interface description data [object] for the second home device in the database;
 - (f) sending control and command data from the first home device to the second home device utilizing said second application interface description data [object] for the second home device over the network; and
 - (g) sending control and command data from the second home device to the first home device utilizing said first application interface description data [object] for the first home device over the network;

whereby the first and second home devices autonomously perform said service.
2. (Twice Amended) The method of claim 1 wherein at least one application interface description data [object] includes XML format.

4. (Amended) The method of claim 3 wherein:
- (i) the first home device stores the first application interface data therein;
 - (ii) the second home device stores the second application interface data therein; and
 - (iii) step (c) includes the steps of [an initial step of forming said database by] querying the first and second home devices to transfer said application interface data for the first and second home devices to the database device over the network.
5. (Amended) The method of claim 1 wherein step (d) includes providing the first application interface description data [object] for the first home device from the database to the second home device over the network.
6. (Amended) The method of claim 1 wherein step (e) includes providing the second application interface description data [object] for the second home device from the data base to the first home device over the network.
7. (Amended) The method of claim 1 further comprising connecting three or more home devices to the network, wherein at least one home device accesses the database to query the application interface description data [objects] of a plurality of home devices for sending command and control data to the plurality of home devices over the network.
8. (Amended) The method of claim 1 wherein each application interface description data [object] includes data in a structured format.
9. (Twice Amended) A network system for providing a service, comprising:
- (a) a physical layer, wherein the physical layer provides a communication medium that can be used by devices to communicate with each other;

- (b) first home device;
- (c) a second home device;
- (d) a controller that queries the first home device to obtain first application interface description data, and queries the second home device to obtain second application interface description data, wherein [a database including a plurality of application interface description data objects,] each application interface description data [object including] includes

information for commanding and controlling of [a] the corresponding home device by [one or more other devices] another device connected to the network, wherein the controller stores the obtained first and second application interface description data in a data base; [wherein:]

the second home device [includes] including application control means for accessing [a] the first application interface description data [object] for the first home device in the database and sending control and command data from the second home device to the first home device utilizing said first application interface description data [object]; and

the first home device [includes] including application control means for accessing [a] the second application interface description data [object] for the second home device in the database and sending control and command data from the first home device to the second home device utilizing said second application interface description data [object];

whereby the first and second home devices autonomously perform said service.

10. (Twice Amended) The network system of claim 9 wherein at least one application interface description data [object] includes XML format.

11. (Amended) The network system of claim 9 [further comprising] wherein the controller further comprises a data base device storing said database.

12. (Amended) The network system of claim 11 wherein:

- (i) the first home device stores first application interface description data

[object] therein;

(ii) the second home device stores second application interface description data [object] therein; and

(iii) said database device forms said data base by querying the first and second home devices to transfer said first and second application interface description data [objects], respectively, to the database device over the network.

13. (Amended) The network system of claim 9 wherein the control application means of the second home device obtains the first application interface description data [object] for the first home device from the database.

14. (Amended) The network system of claim 9 wherein the control application means of the first home device obtains the second application interface description data [object] for the second home device from the data base.

15. (Amended) The network system of claim 9 further comprising three or more home devices, wherein at least one home device accesses the database to query the application interface description data [objects] of a plurality of home devices for sending command and control data to the plurality of home devices over the network.

16. (Amended) The network system of claim 9 wherein each application interface description data [object] includes data in a structured format.

19. (Amended) The method of claim 1 wherein step (c) further includes the steps of providing an agent that creates the data base by obtaining the application interface description data [object] of each device and storing it in the database.

20. (Amended) The network system of claim 9 wherein the controller includes

[further including] an agent that creates the data base.

21. (Amended) The network system of claim 9 wherein the controller includes [further including] an agent that creates the data base by obtaining the application interface description data [object] of each device and storing it in the database.

Please add the following new claims:

--28. (New) A method for performing a service on a network, the method comprising the steps of:

(a) querying a device to obtain application interface description data when the device is connected to the network, wherein the application interface description data includes information for commanding and controlling of the device by another device connected to the network; and

(b) storing the obtained application interface description data in a database.

29. (New) The method of claim 28, wherein at least one application interface description data includes XML format.

30. (New) In a network system for providing a service, a controller comprising an agent that: (a) queries a device to obtain application interface description data when the device is connected to the network, such that the application interface description data includes information for commanding and controlling of the device by another device connected to the network, and (b) stores the obtained application interface description data in a database.

31. (New) The controller of claim 30, wherein at least one application interface description data includes XML format.—